

26 August 1964

MEMORANDUM FOR THE RECORD

**SUBJECT: Guidelines for Discussions with Potential Investigations of
RF Effects in Materials**

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1. Potential Investigators:

2. Phenomena to be Investigated.

- a. Charge effects on polymer spheres in suspensions.
- b. Availability of organic materials having similar effects.

3. Broad Ground Rules.

- a. Interest is in RF fields of low to intermediate power.
- b. Frequencies of interest are from
- c. Unattended operation is desirable.
- d. Little or no immediate processing/analysis/fixing after exposure to the RF field is desirable.
- e. Both reversible and irreversible processes are desired.

4. Desirable Data.

- a. Sensitivity, including threshold field strength levels which may be required and time - field strength buildup effects.
- b. Selectivity, that is, the sharpness of the material effects in terms of frequency.

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c. Reversibility, including the rate of reversal.
Reversible systems as well as irreversible are of interest.

d. Sensitivity to environment such as shock, vibration,
and temperature.

e. Prohibition on sizes or shapes. Are threads and fibers
feasible?

f. Does the system disclose the process, e.g., are color
effects caused due to exposure to RF which would be discernible
to human vision?

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